ABSTRACT OF THE DISCLOSURE

Polycrystalline AlN 3 is deposited on the surface of an SiO_2 film (2) by a sputtering method, and a mask is formed. An Si-doped n-GaN layer 5 is then formed over the mask thus formed. Subsequently, an n-type cladding layer (6), which is formed from Si-doped n-type $Al_{0.1}Ga_{0.9}N$ (silicon concentration 4×10^{17} cm^{-3}, thickness 1.2 μm), an n-type light-trapping layer (7), which is formed from Si-doped n-type GaN, a multiple quantum well layer (8), which is formed from an $In_{0.2}Ga_{0.8}N$ well layer and an Si-doped $In_{0.05}Ga_{0.95}N$ barrier layer, a cap layer (9), which is formed from Mg-doped p-type $Al_{0.2}Ga_{0.8}N$, a p-type light-trapping layer (10), which is formed from Mg-doped p-type GaN, a p-type cladding layer (11), which is formed from Mg-doped p-type $Al_{0.1}Ga_{0.9}N$, and a p-type contact layer (12), which is formed from Mg-doped p-type GaN, are grown in sequence to form an LD layer structure.